

What is claimed is:

1. An apparatus for deploying an endoluminal
5 prosthesis comprising:

an elongated flexible sheath introducer having a near
end, a remote end opposite said near end, and an axially
extending sheath passage opening at said remote end and
being dimensioned for receiving said prosthesis;

10 an elongated push rod¹¹⁷ slidably received within said
sheath passage for movement independently of said sheath
introducer, said push rod having a near portion, a remote
portion remote of said near portion, said remote portion of
said push rod being positionable adjacent said prosthesis
15 so that relative sliding between said sheath introducer and
said push rod can deploy said prosthesis from said sheath
passage opening;

wherein said remote portion of said push rod has a
different flexibility than the near portion of the push
20 rod.

2. The apparatus of claim 1 wherein said flexibility
of said remote portion is greater than the flexibility of
said near portion.

3. The apparatus of claim 1 wherein said remote portion of said push rod comprises a flexible helical coil member.

4. The apparatus of claim 3 further comprising a
5 containment means located on said remote portion of said push rod and adjacent said sheath passage, said containment means for containing said prosthesis prior to deployment.

5. The apparatus of claim 1 wherein said push rod has
10 a length portion having a variable flexibility along said length portion; and

wherein said push rod is relatively more flexible towards said remote portion and relatively less flexible towards said near portion.

15

6. The apparatus of claim 5 wherein said length portion comprises an intermediate flexible region between said near portion and said remote portion; and

wherein said intermediate region provides a relatively
20 smooth transition in flexibility between said near portion and said remote portion.

7. The apparatus of claim 1 further comprising a containment means located on said remote portion of said

push rod and adjacent said sheath passage, said containment means for containing said prosthesis prior to deployment.

8. An apparatus for deploying an endoluminal
5 prosthesis comprising:

an elongated flexible sheath introducer having a near
end, a remote end opposite said near end, and an axially
extending sheath passage opening at said remote end and
being dimensioned for receiving said prosthesis and
10 maintaining said prosthesis in a radially compressed
condition;

an elongated flexible and longitudinally compressible
push rod slidably received within said sheath passage for
movement independently of said sheath introducer, said push
15 rod having a near portion, a remote portion remote of said
near portion, said remote portion of said push rod being
positionable adjacent said prosthesis so that relative
sliding between said sheath introducer and said push rod
can deploy said prosthesis from said sheath passage
20 opening.

9. The apparatus of claim 8 wherein said push rod
comprises a compression spring.

10. An apparatus for deploying an endoluminal graft comprising:

an elongated flexible sheath introducer having a near end, a remote end opposite said near end, and an axially extending sheath passage opening at said remote end and being dimensioned for receiving said graft and maintaining said graft in a radially compressed condition;

an elongated push rod slidably received within said sheath passage for movement independently of said sheath introducer, said push rod having a near portion, a remote portion remote of said near portion, said remote end of said push rod being positionable adjacent said graft so that relative sliding between said sheath introducer and said push rod can deploy said prosthesis from said sheath passage opening wherein said push rod comprises a spring member.

11. The apparatus of claim 10 wherein said push rod comprises a compression spring.

12. The apparatus of claim 10 wherein said push rod comprises a flexible compressible helical coil member.

13. The apparatus of claim 10 wherein said push rod further comprises a containment means for containing said

prosthesis during deployment to provide uniform movement of said push rod and said prosthesis out of said sheath passage opening.

5

14. An apparatus for deploying an endoluminal graft comprising:

an elongated flexible sheath introducer having a near end, a remote end opposite said near end, and an axially extending sheath passage opening at said remote end and being dimensioned for receiving said graft and maintaining said graft in a radially compressed condition;

an elongated push rod slidably received within said sheath passage for movement independently of said sheath introducer, said push rod having a near portion, a remote portion remote of said near portion, said remote end of said push rod being positionable adjacent said graft so that relative sliding between said sheath introducer and said push rod can deploy said prosthesis from said sheath passage opening wherein said push rod comprises a helical coil.

15. The apparatus of claim 14 further comprising a containment means located on said remote portion of said

push rod and adjacent said sheath passage, said containment means for containing said prosthesis prior to deployment.